SOLAR POWER SAVES FOSSIL FUELS

Solar Energy will be more attractive with rising oil price

Anil Kumar Ghosh

With the increasing cost for fossil fuel it is worthy to have a look at the potential of using solar energy. The sun shines without fail or little restriction. It must, however, first of all be packaged and thus made usable. Experts believe that harmonious working of many technology components will one day lead to an efficient solar energy economy.

The utility of solar energy demands for more than a decade long the construction of a comprehensive solar economical infrastructure on transport, storage and distribution up to efficient heat-resistant structure. It is a task the magnitude of which requires a large number of innovations and corresponds to numerous market chances and work places. It may be said that in the context of solar economy, We are today in the same position where the automobile industry stood in or around 1920.

How the mass production cost can be compressed, the solar expert Luther showed in Munich at the Fraunhofer-Forum solar energy. When first 10 MW highest performing photo-voltaic was installed, then a silicon-plain module cost more than 8 Euro per W performance, whereas already more than 4000 MW capacity installed has not cost even 33 Euro per W. Should in a few years time more than 20,000 MW have been installed, then as per realistic estimate the cost will come down below 1.5 Euro/W to 2 Euro/W. Between 2010 and 2020 it could be so far as mentioned by Prof Han Joerg Bullinger, the President of Fraunhofer Gesellschaft (Society).

Certainly silicon solar cells today dominate the market. Science has already in its bag, many wider ideas for the material saving cells of high longevity and high standard of performance besides pigment materials and organic photo voltaic as also diverse development on the basis of materials as CuS, CdS, CdTe and others.

In the solar technique in general, as also in far off real photovoltaic areas we are in the top position which we should and can further construct. This was said by Bullinger with his views on the research and industrial perspectives. Therefore, here we are at the first place attractive to investors and secondly offer an attractive research environment and see from there also wholly real perspectives for a mega future market. Therefore the Fraunhofer society with its institutions carries on research in all possible technical areas in the framework of the theme composite energy and amongst others also the questions of planning and management of integrated energy system. Then many individual components work acting in union to an efficient economical global solar energy.

Solar energy obtainable from photovoltaic cells and solar thermal power work by means of which the sun as a medium for the propulsion of turbines will cover by around 2100 the half of the world wide energy requirement. Additionally, all technical personnel around the world share this estimate emphasizes Mr Lemoeine the leading engineer of the "Thalheimer Solarzellen - Herstellers Q Cells and adds at the same time. It is with so-

lar cells the theme, efficiency becomes really unimportant because the consumed solar energy comes at no cost and finally it will require no energy carrier. Yes still more. Also the cells themselves as stressed by Mr Luther, the life so to say will be endlessly long and in all cases the corrosion risky electrical terminals are to be renovated once in a decade... Often it is directed in Field by atomfans against solar energy, that the problem of storage is not solved. Here on the other hand emphasizes Mr Luther the stronger we possibly Joint Eurasian Power Network build, the lesser the storage is necessary. Because the net itself works as storage, it can certainly quickly in a second's time bring together excess production here with actual requirement.

The globally available free solar energy in order to use is intelligently instead of scant oil and gas to fire/ignite can rather mean paradoxically, man cools the building simply with the help of the sun. Therefore, the systems for the objective become presentable in a complete series of various techniques. So indicates Dr Edmund Stases of the firm CINergy. All these then have the complete special advantages that always when one urgently needs specially cold, then the sun specially straight also shines strongly, so is Stressed is happy that our systems already is used in hot Australia in order to cover up the extreme requirement of cold. With that the energy supplier saves costly investment for load power work.

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Bio diesel from Biomass

Anil Kumar Ghosh

Biomass is probably as worthy as gold. Diesel (liquid fuel) can be produced from it. The scientists estimate that Biomass in Germany already suffices to produce around 30 million tons diesel per annum. That would be approximately more than domestic turnover of liquid fuel of 2004. A production method as of Choren can also synthesize domestic and industrial garbage, Germany may rather produce much over its requirement and promote export of diesel liquid oil.

It is said that fossil fuel is black gold. It is the best primary energy carrier, most important raw material and offers energy in concentrated form. From raw oil, fuel is prepared the production cost of which namely the price before duty per litre is comparatively very low. Liquid fuel from biomass has many hurdles to cross in order to be able to compete with the mineral oil. One hurdle is component of the biomass : the mass along with its filler for the production of biogenic fuel is huge and voluminous.

Choren Industries in Germany want to commission the first big technical plant for the manufacture of synthetic BTL (Biomass to Liquid) fuel 'Sun Diesel' from biomass in the 2006. The capacity of this diesel fuel according to Choren method will be to the tune of 15000 tons per annum. For this 65000 tons dry biomass is required which consists of scraps which will weigh more than 220 kg/m^3 depending on the nature of wood. Therefore, about 260000 m^3 wood shavings from chopper with almost 8000 twenty footed container (volume approximately 33m^3 per container) will roll in the workshop. The first big technical plant the construction of which is planned beyond 2007 in Lubniz near Greifswalf in